


Please add new claims 15 and 16 as follows:



15. (New) The X-ray camera as set forth in claim 1, wherein a thickness of the reference subject is uniform.

16. (New) The X-ray camera as set forth in claim 1, wherein a material of reference subject is homogeneous.

### **REMARKS**

#### **I. Introduction**

In response to the pending Office Action, Applicants have amended claims 1-14 so as to more clearly recite the intended subject matter of the present invention. In addition, new claims 15 and 16 have been added. Support for new claims 15 and 16 can be found, for example, in Fig. 7 and the corresponding portion of the disclosure. No new matter has been added.

In addition, Fig. 3b has been amended to eliminate the Japanese character contained in the originally filed drawing.

For the reasons set forth below, it is respectfully submitted that all pending claims are patentable over the cited prior art.

#### **II. Williams Does Not Constitute Prior Art To The Instant Application**

Claims 1-14 were rejected under 35 U.S.C. § 102(e) as being anticipated by USP No. 6,292,535 to Williams. Applicants respectfully submit that Williams is not prior

art to the instant application.

Williams has an effective filing date of December 21, 1999 for the purposes of being utilized as prior art against pending US patent applications. However, the instant application has a priority date of March 29, 1999 based on the claim of priority to JP 11-0085844. Applicants submit herewith a certified translation of the priority document in order to perfect the claim of priority.

Accordingly, for the foregoing reasons it is respectfully submitted that Williams cannot be cited as prior art against the instant application, and it is therefore requested that the pending rejection be withdrawn.

### **III. Request For Notice Of Allowance**

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited.

If there are any outstanding issues that might be resolved by an interview or an

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Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

Respectfully submitted,

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4/9/03

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

Claims 1-14 have been amended and new claims 15 and 16 have been added as follows:

1. (Twice Amended) An X-ray camera comprising:

an X-ray irradiation unit;

an X-ray image sensor including an X-ray-to-photo conversion device for converting an X-ray radiated from said X-ray irradiation unit to a photo signal for corresponding to an intensity of the X-ray and a photoelectric conversion device for converting the photo signal to an electric signal to output brightness data of an image in a unit of a pixel;

a correction factor setting unit for setting a correction factor based on electronic image data of a reference subject provided from said X-ray image sensor which takes an X-ray photograph of the reference subject;

a correction factor storage unit for storing the correction factor set in said correction factor setting unit; and

a controller for correcting the brightness data of the image output from said X-ray image sensor based on the correction factor to output corrected brightness data;

[photographic equipment having an image correction means for improving picture quality of an X-ray photographic image by correcting dispersion in brightness of the image obtained by taking an X-ray photograph of a subject body, using a pixel correction factor acquired from a brightness data representing gradation of an image

obtained by taking an X-ray photograph of a reference subject].

2. (Twice Amended) The X-ray [photographic equipment] camera as set forth in claim 1, wherein said [pixel] correction factor for improvement of picture quality acquired from the brightness data [representing gradation] of the image obtained by taking the X-ray photograph of said reference subject is set therein for each pixel individually.

3. (Amended) The X-ray [photographic equipment] camera as set forth in claim 2, wherein a value acquired by dividing a predetermined brightness reference value with a brightness value of each pixel in the image obtained by taking the X-ray photograph of said reference subject is used as a [pixel] correction factor for said pixel.

4. (Twice Amended) The X-ray [photographic equipment] camera as set forth in claim 3, wherein said [image correction means for improving picture quality] controller corrects the brightness of each pixel by multiplying a brightness value of said pixel in the image obtained by taking the X-ray photograph of [said] a subject body by said [pixel] correction factor of the corresponding pixel [acquired by taking the X-ray photograph of said reference subject].

5. (Amended) The X-ray [photographic equipment] camera as set forth in claim 2, wherein a value acquired by dividing an average value of brightness of the image obtained by taking the X-ray photograph of said reference subject with the

brightness value of each pixel is used as a [pixel] correction factor for said pixel.

6. (Twice Amended) The X-ray [photographic equipment] camera as set forth in claim 5, wherein said [image correction means for improving picture quality] controller corrects the brightness of each pixel by multiplying a brightness value of said pixel in the image obtained by taking the X-ray photograph of said reference subject [body] by said [pixel] correction factor of the corresponding pixel [acquired by taking the X-ray photograph of said reference subject].

7. (Amended) The X-ray [photographic equipment] camera as set forth in claim 2, wherein a value acquired by dividing a representative value of brightness of the image obtained by taking the X-ray photograph of said reference subject with the brightness value of each pixel is used as a [pixel] correction factor for said pixel.

8. (Twice Amended) The X-ray [photographic equipment] camera as set forth in claim 7, wherein said [image correction means for improving picture quality] controller corrects brightness of each pixel by multiplying a brightness value of said pixel in the image obtained by taking the X-ray photograph of said reference subject [body] by said [pixel] correction factor of the corresponding pixel [acquired by taking the X-ray photograph of said reference subject].

9. (Twice Amended) The X-ray [photographic equipment] camera as set forth

in claim 2, wherein urethane resin for typifying a soft-tissue equivalent material representing muscles and adipose tissue, composed of urethane resin and the like, is used as [a] the reference subject [for acquiring said pixel correction factor for improvement of picture quality].

10. (Twice Amended) The X-ray [photographic equipment] camera as set forth in claim 2, wherein any of epoxy resin and aluminum typifying a bone-tissue equivalent material is used as [a] the reference subject [for acquiring said pixel correction factor for improvement of picture quality].

11. (Twice Amended) The X-ray [photographic equipment] camera as set forth in claim 2 further comprising [a storage means for storing a pixel correction factor for each pixel obtained by taking the X-ray photograph of said reference subject, and] a correction factor setting means for setting a [pixel] correction factor, other than ordinary X-ray photography, in order to acquire said [pixel] correction factor, wherein said X-ray [photographic equipment] camera can be operated for resetting a [pixel] correction factor for improvement of picture quality at an arbitrary timing when said equipment is first installed, when a user determines it necessary[, and so on].

12. (Amended) The X-ray [photographic equipment comprising] as set forth in claim 1[:

a storage means for storing a pixel correction factor for each pixel obtained by

taking an X-ray photograph of a reference subject;

a correction factor setting means for setting a pixel correction factor, other than ordinary X-ray photography, in order to acquire said pixel correction factor; and

a correction means for correcting brightness of an image obtained by taking an X-ray photograph of a subject body using said pixel correction factor,]

wherein said correction factor storage [means] unit stores three [sorts] types of [pixel] correction factors obtained by dividing each of three values by a brightness value of [said] each pixel, said three values being an average value and a representative value of brightness of an image obtained by taking the X-ray photograph of said reference subject, and a predetermined reference brightness value, and

said [correction factor setting means] controller selects one [pixel] correction factor among said three [sorts] types of [pixel] correction factors when making correction of brightness of the image obtained by taking the X-ray photograph of said reference subject [body].

13. (Amended) The X-ray [photographic equipment comprising:] camera as set forth in claim 1 [a storage means for storing a pixel correction factor for each pixel obtained by taking an X-ray photograph of a reference subject;

a correction factor setting means for setting a pixel correction factor, other than ordinary X-ray photography, in order to acquire said pixel correction factor; and

a correction means for correcting brightness of an image obtained by taking an X-ray photograph of a subject body using said pixel correction factor,]

wherein said correction factor storage means stores two [sorts] types of [pixel] correction factors corresponding to a soft-tissue equivalent material and a bone-tissue equivalent material by taking photographs of said two equivalent materials, and

said [correction factor setting means] controller selects one [pixel] correction factor between said two [sorts] types of [pixel] correction factors when making correction of brightness of the image obtained by taking the X-ray photograph of said reference subject [body].

14. (Twice Amended) The X-ray [photographic equipment] camera as set forth in claim 1, wherein a plurality of X-ray image sensors are arranged in a manner that a portion of an image-capture area of each said sensor overlaps with one another, in order to take an X-ray image of an expanded size without an error of brightness in the overlapped portion.

Please add new claims 15 and 16 as follows:

15. (New) The X-ray camera as set forth in claim 1, wherein a thickness of the reference subject is uniform.

16. (New) The X-ray camera as set forth in claim 1, wherein a material of reference subject is homogeneous.